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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Assaf Govari

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12/30/2005

PHILIP S. JOHNSON
JOHNSON & JOHNSON
ONE JOHNSON & JOHNSON PLAZA
NEW BRUNSWICK, NJ 08933-7003

EXAMINER

SCHINDLER, DAVID M

ART UNIT

PAPER NUMBER

2862

DATE MAILED: 12/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/632,217	Applicant(s) GOVARI, ASSAF	
	Examiner David Schindler	Art Unit 2862	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

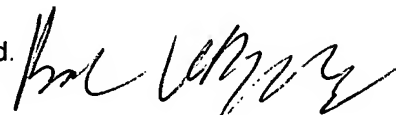
Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 September 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.



Bot Ledyah
Primary Examiner

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is in response to the communication received 9/19/2005.

Drawings

2. The drawings are objected to because the newly added Yes and No terms to Figure 2 appear to be backward. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Response to Arguments

3. Applicant's arguments filed 9/19/2005 have been fully considered but they are not persuasive.

With respect to Applicant's argument in paragraph one of page two of the Remarks, the Examiner respectfully disagrees. Amended Claim 1 now includes "if testing reveals a convergence of the computation, then repeating steps (i) through (iv) for N repetitions, wherein N equals a number of times." However, no range for "N" is defined. The Examiner is interpreting N to be zero, and thus there are zero repetitions.

With respect to Applicant's argument in paragraph two of page two of the Remarks, the Examiner respectfully disagrees. Amended Claim 12 now includes "wherein the system controller repeats (i) and (ii) when testing reveals a convergence of the computations for N repetitions, wherein N equals a number of times." Again, no range for "N" is defined. The Examiner is interpreting N to be zero, and thus there are zero repetitions.

Claim Objections

4. Claim 1 is objected to because of the following informalities: The phrase "the computation" on lines 14-15 is awkward and it is recommended to instead use the phrase "the computations."

Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1- 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Schneider (6,073,043).

As to Claim 1,

Schneider discloses (i) producing energy fields at a plurality of different frequencies in a vicinity of the object (60) ((Column 5, Lines 44-46 / note: frequency) and (Column 23, Lines 16-21) and (Figure 11)), (ii) receiving signals that are generated at a location of the object at the different frequencies in response to the energy fields ((Column 22, Lines 62-66) and (Column 23, Lines 42-43)), (iii) making multiple computations of spatial coordinates of the object based on the signals received at the different frequencies ((Column 9, Lines 8-67) and (Column 10, Lines 1-67) and (Column 11, Lines 1-49 / note lines 16-17)), (iv) ascertaining whether the energy fields have been perturbed by an article in the vicinity of the object by testing a convergence of the computations ((Column 17, Lines 35-38) and (Column 17, Lines 46-53) and (Column 18, Lines 1-22)), and (v) if testing reveals a convergence of the computations, then repeat steps (i) through (iv) for N repetitions, where N equals a number of times.

As to Claim 2,

Schneider discloses producing the energy fields includes producing magnetic fields (Column 22, Lines 62-66), and wherein receiving the signals includes receiving electrical signals which are generated responsively to the magnetic fields (Column 23, Lines 42-51).

As to Claim 3,

Schneider discloses producing the magnetic fields includes driving multiple radiator coils ((11) through (18)) with electrical currents at the different frequencies so as to generate the magnetic fields ((Column 5, Lines 44-46 / note: frequency) and (Column 22, Lines 62-66) and (Column 23, Lines 15-21) and (Figure 11)).

As to Claim 4,

Schneider discloses driving the multiple radiator coils includes driving each of the coils to generate the magnetic fields at a unique, respective set of the frequencies ((Column 22, Lines 62-66) and (Column 23, Lines 15-21)).

As to Claim 5,

Schneider discloses receiving the electrical signals includes receiving the electrical signals from one or more sensor coils that are fixed to the object ((Figure 11) and (Column 23, Lines 42-51) and (Column 24, Lines 22-24) and (Column 23, Lines 65-67) and (Column 24, Lines 1-6)).

As to Claim 6,

Schneider discloses producing the energy fields includes scanning sequentially through a predetermined sequence of the frequencies ((Column 5, Lines 44-46 / note:

frequency) and (Column 23, Lines 15-21) and (Column 23, Lines 32-35) and (Figure 11)).

As to Claim 7.

Schneider discloses producing the energy fields includes generating the fields simultaneously at the different frequencies ((Column 5, Lines 44-46 / note: frequency) and (Column 23, Lines 15-21) and (Column 23, Lines 35-41 / note: frequency division multiplexing) and (Figure 11)).

As to Claim 8.

Schneider discloses making the multiple computations includes solving a set of simultaneous equations relating the received signals to the spatial coordinates of the object ((Column 10, Lines 42-44) and (Column 11, Lines 16-17) and (Column 24, Lines 18-19) and (Figure 11)).

As to Claim 9.

Schneider discloses making the multiple computations includes applying an iterative method of approximation to determine the spatial coordinates ((Column 10, Lines 1-8) and (Column 11, Lines 16-17)), and wherein testing the convergence includes evaluating a convergence criterion of the iterative method ((Column 10, Lines 1-8) and (Column 11, Lines 16-17) and (Column 17, Lines 36-38) and (Column 17, Lines 46-67) and (Column 18, Lines 1-22)).

As to Claim 10.

Schneider discloses testing the convergence includes detecting a discrepancy between the spatial coordinates computed at the different frequencies ((Column 5,

Art Unit: 2862

Lines 44-46 / note: frequency) and (Column 5, Lines 50-51) and (Column 17, Lines 36-38) and (Column 17, Lines 46-67) and (Column 18, Lines 1-22)).

As to Claim 11,

Schneider discloses upon ascertaining that the energy fields have been perturbed, correcting the computations to compensate for a presence of the article in the vicinity of the object (Column 18, Lines 7-9).

As to Claim 12,

Schneider discloses at least one radiator (10) which is adapted to produce energy fields at a plurality of different frequencies in a vicinity of the object (60) ((Column 5, Lines 44-46 / note: frequency) and (Column 22, Lines 62-66) and (Column 23, Lines 16-21) and (Figure 11)), at least one sensor (20), fixed to the object (Column 24, Lines 22-24), which is adapted to generate signals in response to the energy fields at the different frequencies ((Column 22, Lines 62-66) and (Column 23, Lines 42-51)), and a system controller (50), which is adapted to (i) make multiple computations of spatial coordinates of the object based on the signals generated at the different frequencies ((Column 9, Lines 8-67) and (Column 10, Lines 1-67) and (Column 11, Lines 1-49 / note lines 16-17)), and to (ii) ascertain whether the energy fields have been perturbed by an article in the vicinity of the object by testing a convergence of the computations ((Column 17, Lines 36-39) and (Column 17, Lines 46-53) and (Column 18, Lines 7-22) and (Column 26, Lines 44-63)), wherein the system controller repeats (i) and (ii) when testing reveals a convergence of the computations for N repetitions, wherein N equals a number of times.

As to Claim 13,

Schneider discloses the energy fields include magnetic fields (Column 22, Lines 62-66), and wherein the signals include electrical signals which are generated by the at least one sensor responsively to the magnetic fields (Column 23, Lines 42-51).

As to Claim 14,

Schneider discloses the at least one radiator includes multiple radiator coils ((11) through (18)) and driving circuitry ((71) through (78) and (42) and (41)) ((Figure 11)), which is adapted to drive the radiator coils with electrical currents at the different frequencies so as to generate the magnetic fields ((Column 5, Lines 44-46 / note: frequency) and (Column 22, Lines 62-66) and (Column 23, Lines 15-21) and (Figure 11)).

As to Claim 15,

Schneider discloses the driving circuitry is adapted to drive each of the coils to generate the magnetic fields at a unique, respective sequence of the frequencies ((Column 22, Lines 62-66) and (Column 23, Lines 15-24)).

As to Claim 16,

Schneider discloses the at least one sensor includes one or more sensor coils ((Figure 11) and (Column 23, Lines 42-51) and (Column 24, Lines 22-24) and (Column 23, Lines 65-67) and (Column 24, Lines 1-6)).

As to Claim 17,

Schneider discloses the at least one radiator is adapted to generate the energy fields sequentially with a predetermined sequence of the frequencies ((Column 5, Lines

Art Unit: 2862

44-46 / note: frequency) and (Column 23, Lines 15-21) and (Column 23, Lines 32-35) (Figure 11)).

As to Claim 18,

Schneider discloses the at least one radiator is adapted to generate the fields simultaneously at the different frequencies ((Column 5, Lines 44-46 / note: frequency) and (Column 23, Lines 15-21) and (Column 23, Lines 35-41 / note: frequency division multiplexing) and (Figure 11)).

As to Claim 19,

Schneider discloses the system controller is adapted to compute the spatial coordinates by solving a set of simultaneous equations relating the received signals to the spatial coordinates of the object ((Column 10, Lines 42-44) and (Column 11, Lines 16-17) and (Column 24, Lines 18-19) and (Column 24, Lines 22-24) and (Figure 11)).

As to Claim 20,

Schneider discloses the system controller is adapted to compute the spatial coordinates by applying an iterative method of approximation ((Column 10, Lines 1-8) and (Column 11, Lines 16-17) and (Column 24, Lines 18-19)), and to test the convergence of the computation by evaluating a convergence criterion of the iterative method ((Column 10, Lines 1-8) and (Column 11, Lines 16-17) and (Column 17, Lines 36-38) and (Column 17, Lines 46-67) and (Column 18, Lines 1-22)).

As to Claim 21,

Schneider discloses the system controller is adapted to test the convergence by detecting a discrepancy between the spatial coordinates computed at the different

Art Unit: 2862

frequencies ((Column 5, Lines 44-46 / note: frequency) and (Column 5, Lines 50-51) and (Column 17, Lines 36-38) and (Column 17, Lines 46-67) and (Column 18, Lines 1-22) and (Column 26, Lines 44-62)).

As to Claim 22,

Schneider discloses the system controller is adapted, upon ascertaining that the energy fields have been perturbed, to correct the computations to compensate for a presence of the article in the vicinity of the object ((Column 18, Lines 7-9) and (Column 24, Lines 18-19) and (Column 27, Lines 7-9)).

Conclusion


7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Schindler whose telephone number is (571) 272-2112. The examiner can normally be reached on M-F (8:00 - 5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


David Schindler
Examiner
Art Unit 2862

DS